

Power Transistor (80V, 1A)

2SD1898 / 2SD1733 / 2SD1768S / 2SD1863

●Features

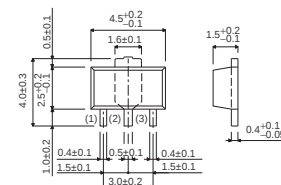
- 1) High V_{CE0} , $V_{CE0}=80V$
- 2) High I_C , $I_C=1A$ (DC)
- 3) Good h_{FE} linearity
- 4) Low V_{CE} (sat)
- 5) Complements the 2SB1260 / 2SB1241 / 2SB1181

●Structure

Epitaxial planer type
 NPN silicon transistor

●Dimensions (Unit : mm)

2SD1898

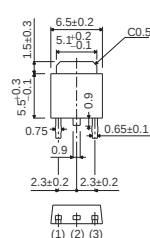


ROHM : MPT3
 EIAJ : SC-62

(1) Base
 (2) Collector
 (3) Emitter

Abbreviated symbol : DF

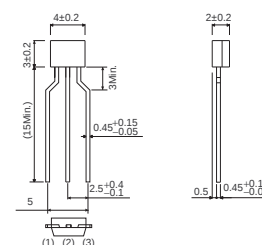
2SD1733



ROHM : CPT3
 EIAJ : SC-63

(1) Base
 (2) Collector
 (3) Emitter

2SD1768S

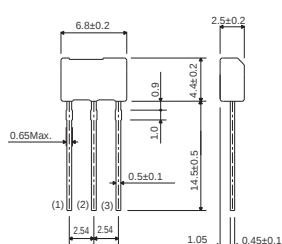


ROHM : SPT
 EIAJ : SC-72

(1) Emitter
 (2) Collector
 (3) Base

Taping specifications

2SD1863



Taping specifications

(1) Emitter
 (2) Collector
 (3) Base

ROHM : ATV

●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit	
Collector-base voltage		V _{CBO}	120	V	
Collector-emitter voltage		V _{CEO}	80	V	
Emitter-base voltage		V _{EBO}	5	V	
Collector current		I _C	1	A (DC)	
			2	A (Pulse) *1	
Collector power dissipation	2SD1898	P _C	0.5	W	
			2	W *3	
	2SD1733		1	W	
			10	W (T _C =25°C)	
	2SD1768S		0.3	W	
	2SD1863		1	W *2	
Junction temperature		T _J	150	°C	
Storage temperature		T _{stg}	-55 to +150	°C	

*1 P_w=20ms, duty=1 / 2*2 Printed circuit board 1.7mm thick, collector copper plating 1cm² or larger.

*3 When mounted on a 40×40×0.7mm ceramic board.

●Electrical characteristics (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage		BV _{CBO}	120	—	—	V	I _C =50μA
Collector-emitter breakdown voltage		BV _{CEO}	80	—	—	V	I _C =1mA
Emitter-base breakdown voltage		BV _{EBO}	5	—	—	V	I _E =50μA
Collector cutoff current		I _{CBO}	—	—	1	μA	V _{CB} =100V
Emitter cutoff current		I _{EBO}	—	—	1	μA	V _{EB} =4V
DC current transfer ratio	2SD1863	h _{FE} *	120	—	390	—	V _{CE} =3V, I _C =0.5A
	2SD1733, 2SD1898		120	—	390	—	
	2SD1768S		120	—	390	—	
Collector-emitter saturation voltage		V _{CE(sat)}	—	0.15	0.4	V	I _C /I _B =500mA/20mA
Transition frequency		f _T	—	100	—	MHz	V _{CE} =10V, I _E =-50mA, f=100MHz
Output capacitance		C _{ob}	—	20	—	pF	V _{CB} =10V, I _E =0A, f=1MHz

* Measured using pulse current

●Packaging specifications and h_{FE}

Type	h _{FE}	Package	Taping			
		Code	T100	TL	TP	TV2
		Basic ordering unit (pieces)	1000	2500	5000	2500
2SD1898	QR		○	—	—	—
2SD1733	QR		—	○	—	—
2SD1768S	QR		—	—	○	—
2SD1863	QR		—	—	—	○

h_{FE} values are classified as follows :

Item	Q	R
h _{FE}	120 to 270	180 to 390

●Electrical characteristic curves

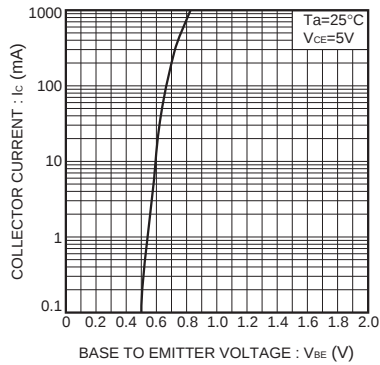


Fig.1 Grounded emitter propagation characteristics

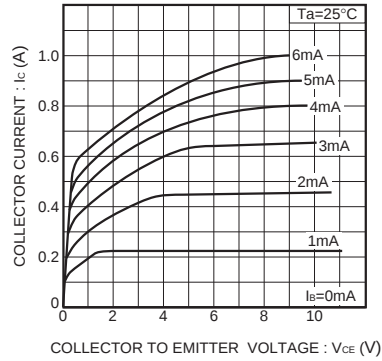


Fig.2 Grounded emitter output characteristics

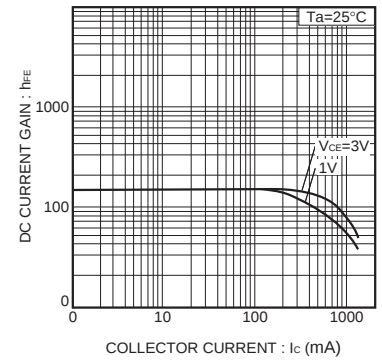


Fig.3 DC current gain vs. collector current

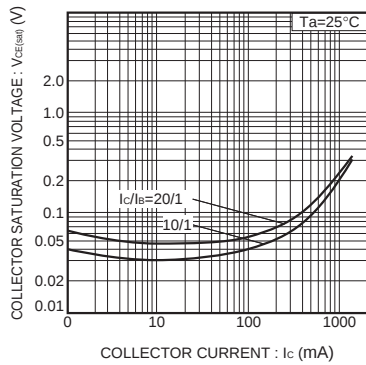


Fig.4 Collector-emitter saturation voltage vs. collector current

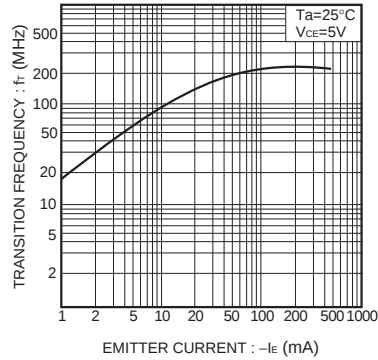
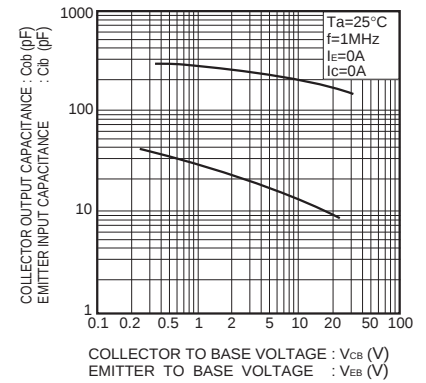
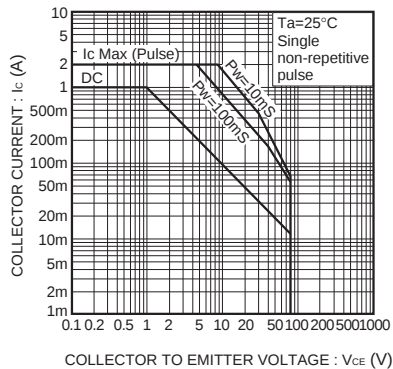
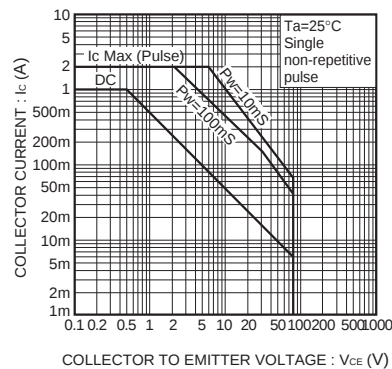


Fig.5 Gain bandwidth product vs. emitter current

Fig.6 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltageFig.7 Safe operating area
(2SD1863)Fig.8 Safe operating area
(2SD1898)

Notes

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